

AMENDMENTS TO SPECIFICATION

Please amend the section beginning at page 6, line 18, as follows:

Referring to FIG. 3, at step 302, a process gets a shared lock on a branch block. At step 304, the process determines whether the child block of the branch block is a leaf block or branch block. If a child block is a branch block, then at step 306, the process gets a shared lock on the child branch block and at step 308 releases the shared lock on the parent ~~branch~~ block. If the child block is a leaf block, then execution proceeds to step 310.

At step 310, the process gets an exclusive lock on the ~~child~~ leaf block.

At step 312, the process releases the shared lock on the parent block.

At step 316, the process reads the leaf block.

At step 320, the process determines whether the leaf block is marked for split by a block split operation. A block may be marked for a block split operation at a step that is later described. If the leaf block is marked for split, then at step 324, the process releases the exclusive lock on the leaf block, ceases execution of the steps to wait and then re-attempt to insert the key value by initiating a traversal of the b-tree again at step 302.

If the leaf block is not marked for split, then at step 330, the process determines whether the leaf block is full. If the leaf block is not full, then at step 334, a key value entry is added to the leaf block, and the shared lock of the leaf block is released. Execution of the steps ceases. If the leaf block is full, then execution proceeds to step 340.

At step 340, the process marks the leaf block for split by adding data to the block.

At step 344, the process releases the exclusive lock on the leaf block.

At step 348, the process gets an exclusive lock on the parent block.

At step 350, the process modifies the parent ~~branch~~ parent block. The modifications include changes to the identified ranges in the ~~branch~~ parent block that are needed for the block split operation as described earlier. Also, it is possible that the parent block may be full and cannot accommodate a new range entry. However, for purposes of exposition, a process for handling this situation is not specifically described.